REMARKS

Reconsideration of the above-identified patent application, as amended, is respectfully requested.

According to Engineering.com, bearings provide either a sliding or a rolling contact. Sliding contact bearings are referred to as plain bearings and rolling contact bearings are often called antifriction bearings. Antifriction bearings according further to the article "Antifriction Bearings", enclosed herewith, minimize friction by removing any possible sliding between bearing surfaces and replacing all contacts with rolling interferences.

Referring to the Examiner's most recent report, claims 97-102 have been rejected under 35 USC 112 since it is not clear what the scope and meaning of antifriction bearings should include. Applicant believes the term is common in the industry; however, to provide more clarity, applicant has amended the claims replacing the word "antifriction" with "rolling contact." By this terminology, applicant's claims require the bearings to minimize friction by removing any possible sliding between bearing surfaces and replacing all contacts with rolling inner faces. It is therefore believed the rejection under 35 USC 112 has been obviated. Claim 98 has been indicated as allowable if rewritten to overcome the rejections under 35 USC 112. Applicant has therefore amended claim 98 by including all the limitations of the base claim.

The remaining claims have been rejected in view of the Lindstrom '251 patent with or without the Marple U.S. Patent '535. Applicant has herein amended the independent claim 97 to distinguish over the cited art.

In the amended claim 97, the gripping member has been defined as supported on the carrier member to move with the carrier member and to rotate independently with respect with the carrier member about a rotational axis. Such structure is not suggested or taught in the Lindstrom patent since latch member 31 never rotates independently of the elements 38, 88. Moreover, the latch member 31 is not supported on the elements 38, 88 about an axis which extends through the elements 38, 88. If at all, a point of rotation can be identified at the reason of contact between the latch member 31 and the element 88.

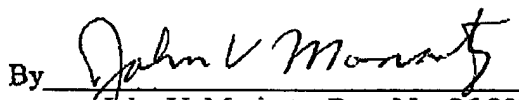
Claim 99 has been rejected by combining the Lindstrom and Marple patents. Neither Lindstrom or Marple teach or suggest a double rolling contact structure. Lindstrom includes a pin 45 that provides a sliding bearing for the element 44 and not a rolling contact bearing. In Marple, the roller 58 has rolling contact with a bolt 12 and a spring 50; however, the roller has sliding contact with respect to the casing 10 (page 2, lines 57-64). In that respect, roller 58 is comparable to the element 54 of Lindstrom. There is no suggestion in either patent to support the element 44 of Lindstrom or the roller 58 of Marple with respect to the latch casing using a rolling contact bearing. It is therefore believed claim 99 should be allowed in view of the above and further in view of reasons given for the allowance of the base claim.

Claim 100 is believed allowable for the reasons given for the allowance of the base claim 97.

Claims 101 and 102 have been cancelled.

For the above reasons, applicant is of the opinion that the subject patent application is in condition for allowance and such action by the Examiner is respectfully requested.

Respectfully submitted,

By 

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Bearings

Introduction

Bearings provide either a sliding or a rolling contact whenever relative motion exists between parts of a machine. Sliding contact bearings are referred to as plain bearings and rolling contact bearings are often called antifriction bearings.

Bearings that provide sliding contact fall into three general classes: radial bearings that support rotating shafts; thrust bearings that support axial loads on rotating shafts; and linear bearings that guide moving parts in a straight line. Radial bearings are also called sleeve bearings and they can either be full journal bearing or partial journal bearing. The former has 360° contact with its mating surface where the latter has less than 180° contact. The relative motions between the mating surfaces of a plain bearing may take place in the following ways:

1. As pure sliding with any lubricating medium between the moving surfaces.
2. With hydrodynamic lubrication where a film buildup of lubricating medium is produced.
3. With hydrostatic lubrication where a lubricating medium is introduced under pressure between the moving surfaces.
4. With a combination of hydrodynamic and hydrostatic lubrication.

Antifriction bearings minimize friction by removing any possible sliding between bearing surfaces and replacing all contacts with rolling interfaces. They substitute balls or rollers for a hydrodynamic or hydrostatic fluid film to carry loads with reduced friction. They utilize a separator to space the hardened rolling elements apart. The Anti-Friction Bearing Manufacturers Association Standards (AFBMA) provides standardized dimensions, tolerances and fits of ball and roller bearings.

Below is a summary of the advantages and disadvantages of plain bearings when compared with antifriction bearings.

Advantage	Disadvantage
Quieter in operation	High friction between mating surfaces result in high power consumption.
Lower cost	More susceptible to damage from impurities in lubrication system.
Require less space	More susceptible to damage from impurities in lubrication system.
Bearing	life is not limited by fatigue Have more stringent lubrication requirements.

Plain Bearings

Plain bearings can be classified into two types: hydrodynamic bearings and hydrostatic bearings. Hydrodynamic bearings attained lift between the mating surfaces by wedging lubricant into the contact area with a relatively high rotational speed. The disadvantage of this design is the lack of lubricant on the surfaces when the shaft begins to rotate. Thus machineries that utilize this type of bearings should not be subjected to a high load during startup.

Hydrostatics bearings utilize an external source to force lubricant into the contact. They are used in heavily loaded and slow moving machines where the rotation speed is not great enough to form full film lubrication. Below is a summary of the most commonly used plain bearings; with the first three being hydrodynamic bearings and the last one is hydrostatic bearing.

Circumferential Groove Bearings

This type of bearings has an oil groove extending circumferentially around the bearing. The oil is